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Center for Consumer Product Technology
National Engineering Laboratory
National Bureau of Standards
U.S. Department of Commerce
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and

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August 1980

Interim Report

Prepared for
U.S. Bureau of Mines
Pittsburgh, Pennsylvania 15213

and

Mine Safety and Health Administration
Triadelphia, West Virginia 26059

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U.S. DEPARTMENT OF COMMERCE, **Philip M. Klutznick**, *Secretary*
Luther H. Hodges, Jr., *Deputy Secretary*
Jordan J. Baruch, *Assistant Secretary for Productivity, Technology, and Innovation*
NATIONAL BUREAU OF STANDARDS, **Ernest Ambler**, *Director*

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EXPLOSION CONTAINMENT FOR UNDERGROUND COAL MINE EQUIPMENT: A BIBLIOGRAPHY

C. A. Wan and Emil Braun

Abstract

This is a bibliography of publications concerning explosion-proof enclosures with the emphasis on underground coal mine applications. A survey of the literature primarily in English speaking countries through 1974 is compiled. The compilation includes over 200 citations. An author and key word index is included for cross reference.

Key words: Bibliography; coal mines; electrical equipment; enclosures; explosion; explosion containment; mine safety.

I. INTRODUCTION

As an initial step in assisting the Mine Safety and Health Administration (MSHA) in documenting and improving the current test procedures for the approval of explosion-proof enclosures used in underground coal mines, the Center for Fire Research (CFR) at the National Bureau of Standards initiated a survey of pertinent literature. This survey was confined to publications from English speaking countries, except in those cases where English abstracts could be found. This compilation covers publications through 1974.

The citations listed in this bibliography have been limited to underground coal mine applications. Articles and reports relating equipment performance in hazardous atmospheres to code design requirements were specifically sought. However, several general review articles were included to aid those readers interested in the general area of explosion characterization. Those readers are advised to review the articles by Tideswell (T2), Rainford (R8,R9), and Stewart (S23) as well as the books by Magison (M3) and Lewis and von Elbe (L2).

The Fire Research Information Service at CFR was the starting point for this bibliography. The search was quickly expanded to include the Bureau of Mines publications and the National Technical Information Service, the Department of Interior Library as well as the National Coal Association Library. The Safety in Mines Research Establishment publications were also reviewed.

This bibliography is divided into three sections. Section I is an alphabetic listing by first author, with an alphanumeric key given for each of the 238 citations. This alphanumeric key is used in the following two sections. Section II is an author index containing all of the authors found in Section I alphabetically listed. Next to each author's name is the alphanumeric key for each citation in Section I. Section III is a key word index in which the citations are listed by their alphanumeric keys assigned in Section I.

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V. ACRONYMS

ASME - American Society of Mechanical Engineers
CEAL - Canadian Explosive Atmospheres Laboratory
ERA - Electrical Research Association
HMSO - Her Majesty's Stationery Office
IEC - International Electrotechnical Commission
IEE - Institution of Electrical Engineers
IEEE - Institute of Electrical and Electronic Engineers
ISA - Instrument Society of America
NFC - National Fire Code
NFPA - National Fire Protection Association
SMRB - Safety in Mines Research Board
SMRE - Safety in Mines Research Establishment
USBM - United States Bureau of Mines

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This is a bibliography of publications concerning explosion-proof enclosures with the emphasis on underground coal mine applications. A survey of the literature primarily in English speaking countries through 1974 is compiled. The compilation includes over 200 citations. An author and key word index is included for cross reference.

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